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EXAMINER				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,266

Applicant(s)

UENO ET AL.

Examiner

YURIY SEMENENKO

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/02)
- Paper No(s)/Mail Date 07/31/2008
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Drawings

1.1. Figures 20 and 23 - 25 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

1.2. The drawing Fig. 19 is objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "bracket rim", as claimed in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

2.1. Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
I STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

2.2. Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual

Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

2.3. The disclosure is objected to because of the following informalities:

[0011], line 5 : " 104a, 104a" should be – 104a, 105a -.

Appropriate correction is required.

Claim Objections

3. Claims 2-8 and 9 are objected to because of the following informalities:

Claim 2: limitations: " the mounting position", "the surface", "the surface of the bracket " and "the bracket" lack antecedent basis.

Claim 3: limitations: " the surface of the bracket " and "the bracket" lack antecedent basis.

Claim 4: limitation : " the multiple contacts " lacks antecedent basis.

Claims 5 and 6: limitation: " the surface of the circuit board ", " the positive electrode", " the negative electrode" and " the length direction" lack antecedent basis.

Claim 7: limitation : " the bracket " lacks antecedent basis.

Claim 8: limitation " the flat surface of the bracket", " the bracket", "rim", " the surface of the circuit board" and "the circuit board" lack antecedent basis.

Claim 9:

1) "Portable terminal equipment " should be changed to – A portable terminal equipment—for proper antecedence basis.

2) "a multifunctional vibrating actuator" should be changed to – the multifunctional vibrating actuator - for proper antecedence basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 4: It is unclear whether "the multiple contacts" in the circuit board or in a multifunctional vibrating actuator. Further, limitation : " the multiple contacts " lacks antecedent basis.

For further prosecution on the merits, the examiner has assumed that : the multiple contacts on the surface of the circuit board.

As to claim 5: It is unclear what does it mean " the positive electrode and the negative electrode have positions that are the same in the length direction" as claimed in claim 5 Further, limitations : " the surface of the circuit board ", " the positive electrode ", " the negative electrode" and " the length direction" lack antecedent basis.

For further prosecution on the merits, the examiner has assumed that: the length of the positive electrode parallel to the length of the negative electrode.

As to claim 7: Unclear what does it mean "the cut-outs being formed as a unit by cutting lower than the height of the cut-outs". What the difference between the first " the cut-outs" and the second one.

For further prosecution on the merits, the examiner has assumed that: the cut-outs being formed in the rim.

As to claim 8: Unclear whether the contacts located on bracket or on the rim.

For further prosecution on the merits, the examiner has assumed that the contacts located on bracket, as its show on Fig. 19.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 5, 9/1 and 9/5 are rejected under 35 U.S.C. 102(e) as being anticipated by Maeda (US 6590991) hereinafter Maeda.

As to claim 1: Maeda discloses in Fig. 12 a structure for mounting a multifunctional vibrating actuator 20 on a circuit board 21, the multifunctional vibrating actuator 20, Fig. 1 having a diaphragm 8, a magnetic circuit (col. 1: 44-45) that is positioned facing the diaphragm 8 and that forms a magnetic path, a suspension 1 that supports the magnetic circuit, a housing 10 that supports the diaphragm 8 and the suspension 1, and a means of driving 7 that produces magnetic drive that operates between the diaphragm and the magnetic circuit, and having terminals 13 and 14, Fig. 10 that are attached to

the housing 10, Fig. 1 and that are electrically connected to the means of driving 7, in which multifunctional vibrating actuator a bracket 12 is fixed to the surface of the circuit board 21, Fig. 11 by means of solder reflow and the housing 10 is held in place by the bracket 12, such that the multifunctional vibrating actuator 20 is mounted on the surface of the circuit board 21 with the terminals 13, 14 electrically connected to the circuit board.

The examiner notes with respect to claims 1 - 3 and 8 that a limitation "by means of solder reflow" is a process limitation in the product claim. Such process limitations define the claimed invention over the prior art only to the degree that they define the product itself. A process limitation cannot serve to patentably distinguish the product over the prior art, in the case that the product is the same as, or obvious over, the prior art. See *Product-by-Process in MPEP 2113 and 2173.05(p)* and *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

As to claim 5: Maeda discloses in Fig. 12 a structure for mounting a multifunctional vibrating actuator 20 on a circuit board 21, in which flat electrodes 21b and 21c formed on the surface of the circuit board 21 are formed with different ratios of length measurement to width measurement, and the positive electrode 21b and the negative electrode 21c have positions that are the same in the length direction, Fig. 12.

As to claim 9/1: Portable terminal equipment (col. 1:12-16) in which a multifunctional vibrating actuator 20, Fig. 1 is mounted using any of the mounting structures described in claim 1 to mount the multifunctional vibrating actuator 20 on the circuit board 21, Fig. 12.

As to claim 9/5: Portable terminal equipment (col. 1:12-16) in which a multifunctional vibrating actuator 20, Fig. 1 is mounted using any of the mounting structures described in claim 5 to mount the multifunctional vibrating actuator 20 on the circuit board 21, Fig. 12.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6.1. Claims 2, 6, 9/2 and 9/6 are rejected under 35U.S.C. 103(a) as being unpatentable over Maeda.

As to claim 6: Maeda discloses in Fig. 12 a structure for mounting a multifunctional vibrating actuator 20 on a circuit board 21, in which flat electrodes 21b and 21c formed on the surface of the circuit board 21 are formed with different ratios of length measurement to width measurement. Although Maeda doesn't explicitly teach that the positive electrode and the negative electrode have positions that differ in the length direction, it is obvious that two electrodes always have two different locations on the circuit board. Further at the time the invention was made, it was well known that design of lay out of the electrodes on the circuit board permits variations.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made to have the positive electrode and the negative electrode have positions that differ in the length direction, in order to provide easy assembly and since it has been held to be within the general skill of a worker in the art to make rearrangement of parts as a matter of obvious engineering choice. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950); and in re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice).

As to claim 2: Maeda discloses in Fig. 11 a structure for mounting a multifunctional vibrating actuator 20 on a circuit board 21, in which the mounting position of the multifunctional vibrating actuator 20 relative to the circuit board 21 is set on the surface near one end of the circuit board Fig. 11 and 12, and in which the bracket 12 being fixed by solder reflow to the surface of the circuit board 21,

except Maeda doesn't explicitly teach there is a projection on the surface of the bracket that faces the circuit board, and it is held in place on the surface of the circuit board by the projection.

Maeda teach there is a projection on the surface (terminals 13f, 14f, Fig. 9 are about 0.05mm lower than the rear surface 12e of the bottom of the bracket 12). device is held in place by the projection (col. 10: 39-49).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Maeda to include in his invention there is a projection on the surface of the bracket that faces the circuit board, and it is held in place on the surface of the circuit board by the projection, as taught by Maeda, in order to hold bracket in place by the projection, as taught by Maeda (col. 10: 46-49).

As to claim 9/2: Portable terminal equipment (col. 1:12-16) in which a multifunctional vibrating actuator 20, Fig. 1 is mounted using any of the mounting structures described in claim 2 to mount the multifunctional vibrating actuator 20 on the circuit board 21, Fig. 12.

As to claim 9/6: Portable terminal equipment (col. 1:12-16) in which a multifunctional vibrating actuator 20, Fig. 1 is mounted using any of the mounting structures described in claim 6 to mount the multifunctional vibrating actuator 20 on the circuit board 21, Fig. 12.

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6.2. Claims 3, 4, 8, 9/3, 9/4 and 9/8 are rejected under 35U.S.C. 103(a) as being unpatentable over Maeda in view of Hatanaka et al. (US 6229249) hereinafter Hatanaka.

As to claims 3 and 4: Maeda discloses in Fig. 12 a structure for mounting a multifunctional vibrating actuator 20 on a circuit board 21, in which the surface of the bracket 12, Fig. 1, that faces the circuit board 21, Fig. 12 has a contact 21a are set at the edge of the bracket 12, that contact solder applied to the surface of the of the circuit board 21 and are fixed by solder reflow,

except Maeda doesn't explicitly disclose two things:

1. two or more contacts; and
2. convex contacts.

Hatanaka teaches two or more contacts 11 – 14 on body 1, Fig. 5 (col. 10: 1-6).

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Maeda to include in his invention two or more contacts, as taught by Hatanaka, in order to provide connection the multifunctional vibrating actuator to the circuit board.

Hatanaka teaches different shapes of contacts, Fig. 18 - 20. Therefore, at the time the invention was made, it was well known a lot of different shapes of the contacts. Further, it has been held In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) that change in shape of the configuration of the claimed device was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to change the shape of the contacts disclosed by Maeda to convex or any other shape in order to provide connection the multifunctional vibrating actuator to the circuit board and since the courts have held that change in shape of the configuration, without any criticality, is within the level of skill in the art as particular shape claimed by applicant is nothing more than one of numerous shape that a person

of ordinary skill in the art would have found obvious to provide using routine experimentation based on its suitability for the intended use of the invention, See *In re Dailey*, 149 USPQ 47 (CCPA 1966).

As to claim 8, Maeda discloses in Fig. 12 a structure for mounting a multifunctional vibrating actuator 20 on a circuit board 21, in which the flat surface of the bracket is formed, and there are on the surface of the bracket rim contact 21a, that contact the solder applied to the surface of the circuit board and that are fixed by solder reflow, except Maeda doesn't explicitly disclose two things:

1. the bracket is formed with an unequal length/width ratio; and there are on the surface of the bracket rim on the longer axis of the length/width ratio two or more contacts; and

2. convex contacts.

Hatanaka teaches (col. 10: 1-6) the body 1 is formed with an unequal length/width ratio, and two or more contacts 11 – 14 on body 1, Fig. 5

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Maeda to include in his invention the bracket is formed with an unequal length/width ratio and there are on the surface of the bracket rim on the longer axis of the length/width ratio two or more contacts, in order to provide connections with portable terminal equipment.

Hatanaka teaches different shapes of contacts, Fig. 18 - 20. Therefore, at the time the invention was made, it was well known a lot of different shapes of the contacts. Further, it has been held *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) that change in shape of the configuration of the claimed device was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to change the shape of the contacts disclosed by Maeda to convex or any other shape in order to provide connection the multifunctional vibrating actuator to electrical device and since the courts have held that change in shape of the

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configuration, without any criticality, is within the level of skill in the art as particular shape claimed by applicant is nothing more than one of numerous shape that a person of ordinary skill in the art would have found obvious to provide using routine experimentation based on its suitability for the intended use of the invention, See *In re Dailey*, 149 USPQ 47 (CCPA 1966).

As to claim 9/3: Portable terminal equipment (col. 1:12-16) in which a multifunctional vibrating actuator 20, Fig. 1 is mounted using any of the mounting structures described in claim 3 to mount the multifunctional vibrating actuator 20 on the circuit board 21, Fig. 12.

As to claim 9/4: Portable terminal equipment (col. 1:12-16) in which a multifunctional vibrating actuator 20, Fig. 1 is mounted using any of the mounting structures described in claim 4 to mount the multifunctional vibrating actuator 20 on the circuit board 21, Fig. 12.

As to claim 9/8: Portable terminal equipment (col. 1:12-16) in which a multifunctional vibrating actuator 20, Fig. 1 is mounted using any of the mounting structures described in claim 8 to mount the multifunctional vibrating actuator 20 on the circuit board 21, Fig. 12.

6.3. Claims 7 and 9/7 are rejected under 35U.S.C. 103(a) as being unpatentable over Maeda in view of Kaneda et al. (US 6807282) hereinafter Kaneda.

As to claim 7: Maeda discloses in Fig. 23 a structure for mounting a multifunctional vibrating actuator 100 on a circuit board 14, in which the bracket 12 is formed in a dish shape Fig. 7, with a bottom part 12 and a rim 12h that rises from the edge of the bottom part 12, the end of the housing 10 of the multifunctional vibrating actuator 20 being fitted to the rim 12h to attach the bracket 12 to the housing 10,

except Maeda doesn't explicitly disclose two things:

1. multiple cut-outs in the rim; and
2. there being a tab on the end of the housing that fits with the rim.

Maeda teaches in Fig. 6 the cut 10b made in the tab of the housing 10.

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Maeda to include in his invention multiple cut-outs in the rim in order to fix position of the multifunctional vibrating actuator in relation with the bracket.

Kaneda teaches in Fig. 36 a tab on the end of the housing 10 that fits with the cover 18.

Therefore it would have been obvious to one of ordinary skill in the art, at the time the invention was made for Maeda to include in his invention there being a tab on the end of the housing that fits with the rim, In order to align the housing with bracket.

As to claim 9/7: Portable terminal equipment (col. 1:12-16) in which a multifunctional vibrating actuator 20, Fig. 1 is mounted using any of the mounting structures described in claim 7 to mount the multifunctional vibrating actuator 20 on the circuit board 21, Fig. 12.

Relevant Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Unno et al. – PG Pub. No: 2004/0217673;

Satoh et al. – US 6274955;

Feng - US 7260230.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuriy Semenenko whose telephone number is (571) 272-6106. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on (571)- 272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuriy Semenenko/
Examiner, Art Unit 2841

/Dean A. Reichard/
Supervisory Patent Examiner, Art
Unit 2841